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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/806,844

03/22/2004

Takashi Izuta

P/1596-77

2467

2352 7590 05/20/2008
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EXAMINER

DHINGRA, RAKESH KUMAR

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

05/20/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/806,844	Applicant(s) IZUTA, TAKASHI	
	Examiner RAKESH K. DHINGRA	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 3/10/08 has been entered.

Response to Arguments

Applicant's arguments with respect to claims 13-16 have been considered but are moot in view of the new ground(s) of rejection as explained hereunder.

Applicant has amended claim 13 by adding new limitation “in a position above said treating tank before said substrate holding device receives the substrates from said substrate transport mechanism and before said substrate holding device is lowered to immerse the received substrates in the heated treating solution stored in said treating tank”.

Claims 13-16 are presently pending and active.

Reference by Ueno when combined with Kuroda et al reads on amended claim 13 limitations. Accordingly claim 13 and dependent claims 14-16 have been rejected under 35 USC 103 (a) as explained below.

Further, applicant's argument regarding McConnell not disclosing a heating device which preheats a back plate in a position above a treating tank, and preheating the black plate before a substrate holding device receives substrates from a substrate transport mechanism, and before this substrate holding device is lowered to immerse the received substrates into the heated treating solution stored in the treating tank, as required by the claim 13 is rendered moot in view of changed grounds of rejection, over Ueno in view of Kuroda as explained below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ueno et al (US Patent No. 5,421,905) in view of Kuroda et al (US PG PUB No. 2002/0153098).

Regarding Claim 13: Ueno et al teach a wafer treating apparatus comprising:

A treating tank 20, 21, a substrate transport mechanism 31a, a substrate holding device 31, 32 having plurality of holding rods 43 and a back plate 41, and a heating device 52 for heating and drying the back plate 41. Ueno et al further teach that back plate 41 can be heated and dried when it is at different locations (during the processing cycle) including at a position above the treating tank 20, depending upon process limitations, and that the location of the heating device 52 can be selected as per process requirements. It would be obvious to select (optimize) the location of the heating device as per process limitations like shape and configuration (thermal mass) of the back plate 41, and temperature of treating fluid etc (e.g. Figs. 9, 13 and col. 3, line 49 to col. 6, line 35). Further, claim limitation “heated treating solution” pertains to contents of apparatus during intended use of the apparatus. Since the prior art apparatus meets all the structural limitations of the claims, the apparatus of prior art is considered capable of meeting these limitations.

In this connection courts have ruled:

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1) It is well settled that determination of optimum values of cause effective variables such as these process parameters is within the skill of one practicing in the art. *In re Boesch*, 205 USPQ 215 (CCPA 1980).

2) Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).

Ueno et al do not teach a controller that controls the treatment of the substrates by immersing said substrate holding device holding the substrates in the heated treating solution stored in said treating tank; and further, Ueno et al teach a back plate 41 with a heating device 52, but do not teach said heating device preheats said back plate in a position above said treating tank before said substrate holding device receives the substrates from said substrate transport mechanism and before said substrate holding device is lowered to immerse the received substrates in the heated treating solution stored in said treating tank.

However use of a controller to control the overall processing of treatment of substrates is known in the art, as per reference cited hereunder.

Kuroda et al teach a substrate treating apparatus (Figs. 3-14) for performing a predetermined treatment of a plurality of substrates as immersed in a solution, comprising:

a treating tank 30 for having the a treating solution stored therein;

a substrate transport mechanism 15 comprising of left/right wafer chucks 20a, 20b and transferring/driving means 21, that transports the plurality of substrates;

a wafer guide 31 (substrate holding device) that holds the substrates received from said substrate transport mechanism and immerses the substrates in the treating solution stored in said treating tank; and

a controller 60 (as per Fig. 5) that controls the treatment of the substrates W by immersing said substrate holding device 31 holding the substrates in the treating solution stored in said treating tank;

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wherein said substrate holding device 31 includes a plurality of holding rods 43a – 43c for holding the plurality of substrates W in vertical posture, and a back plate 45 supporting said holding rods in cantilever fashion (e.g. Figs. 5, 13, 14 and para. 0040-0042, 0052-0062, 0065-0080). It would be obvious to configure the controller 60 of Kuroda et al to control the overall processing of wafers including the heating of back plate by the heating device as per teaching of Ueno, to enable provide automatic control of the overall process of wafer processing, as per process limitations like processing time, temperature of the treating fluid etc.

Therefore it would have been obvious to one of ordinary skills in the art at the time of the invention to configure the controller of Kuroda et al to control the processing of wafer as taught by Ueno to provide automatic control of the overall process of wafer processing, as per process limitations like processing time, temperature of the treating fluid etc.

Further, claim limitation “heating device preheats said back plate in a position above said treating tank before said substrate holding device receives the substrates from said substrate transport mechanism and before said substrate holding device is lowered to immerse the received substrates in the heated treating solution stored in said treating tank” is a functional limitation and since the apparatus of prior art meets the structural limitations of the claim, it is considered capable of meeting the functional limitations.

In this connection courts have ruled:

2) Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. *In re Danly*, 263 F.2d 844, 847, 120 USPQ 528, 531 (CCPA 1959).

Apparatus claims cover what a device is, not what a device does *Hewlett-Packard Co. V. Bausch & Lomb Inc.*, 15USPQ2d 1525, 1528 (Fed. Cir. 1990)

Regarding Claims 14, 15: Ueno in view of Kuroda et al teaches all structural limitations of the claims. The recited limitations regarding use of phosphoric acid and sulfuric acid as treating solutions, are limitations pertaining to contents of apparatus during intended use of the apparatus. Since the prior art

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apparatus meets all the structural limitations of the claims, the apparatus of prior art is considered capable of meeting these limitations.

In this connection courts have ruled:

2) Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969).

Regarding Claim 16: The recited claim limitation regarding use of apparatus for etching treatment is an intended use limitation. Since the prior art apparatus meets all the functional limitations of the claims, the apparatus of prior art is considered capable of meeting these limitations.

In this connection courts have ruled:

“A claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).”

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RAKESH K. DHINGRA whose telephone number is (571)272-5959. The examiner can normally be reached on 8:30 -6:00 (Monday - Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571)-272-1435. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Rakesh K Dhingra/
Examiner, Art Unit 1792

/Karla Moore/
Primary Examiner, Art Unit 1792